

## NON-AQUEOUS ELECTROLYTIC SOLUTION AND LITHIUM SECONDARY BATTERY USING IT

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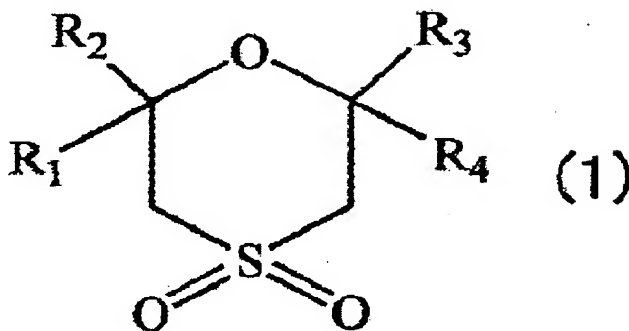
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### Abstract of JP2004265848

**PROBLEM TO BE SOLVED:** To provide a lithium secondary battery superior in a high temperature shelf life and trickle charging characteristic, and a nonaqueous electrolytic solution used in it.

**SOLUTION:** This solution consists primarily of lithium salt and a nonaqueous organic solvent to solve it, and furthermore, 0.01 to 10 wt% of 1,4 thioxane derivative expressed by a general formula (1), and 0.01 to 10 wt% of unsaturated carbonate are contained in the electrolytic solution. Here in the formula, R<SB>1</SB> to R<SB>4</SB> respectively express hydrogen atoms or hydrocarbon groups of carbon numbers 1 to 8 independently. Furthermore, R<SB>1</SB> and R<SB>2</SB>, as well as R<SB>3</SB> and R<SB>4</SB> respectively may be bonded and form a ring mutually, and R<SB>2</SB> and R<SB>3</SB> may be also bonded mutually.

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